



**SdaI (6)**

1 CCTGCAGGCTTACATTTGAATGTTGGCTACATATGTATGAGTTTTCAACTCCAGGAGAAAACGTCTCTTTAAAAGAGAACAACCAAAAGCTA  
94 ACAGAAAATAACAAGTGTGACATTGGCCTTAGTTCGACCAAGAAAGCAATTCATCTTGTTCCTTTGTGGTATACAGATAAAGAAAAATAA  
187 AATCACTACAACGAAAGCAAATCTCTTCAGCGTCTTAATACATCTTCCAATCAGTGTGTCTGACCTTTTCTAAGACTTTAACCATCACA

**EcoRI (332)**

280 AGGAAACCAGTGGGGAGGGAGTGCATGTGCTGCCTAGTAGTTAAAGGGCAGGAGAATTCAGTGGTGTGAGAAGGGATTAGTGAGAGCTGGAAGA  
373 GAGGACCAGCCCCTCCAGTGTGAGGAATCTGGCTTGGGATTTACTGTCTGGCAGAAAATCTCTTCGGGCAATTAACAGCTGGCATCAGGGGA  
466 AAAGCAGACATCCAACAACACTAGCTCTGAAGGAGATCAGCAGAGAAAACCTTCAGGGATTTCATGGTACTGGTGTGAGCAGCTCTGTGgtgggta

**NotI (633)**

559 ccctgtgaccaaagctctaggaacatgaaggagatttgcttgctataaacctgtttcctattctctttcatttccatggttaactattacta  
652 tggtagtcaccaactagtggtgcttttgtaaatgacatctatggaaagtctttttggatcagggatgatctttttatgtatgtgtatgtgca  
745 tggatatgggtgcacgagagcaggtgccagattctcaaggaggcttcagttacaaggagttgggagtgatctgatgtggtgcaaggcact  
838 gaagtcagtctctctgtaagagcactctatgctccttaccactgtgcttctccccagcccaagaatagtattcttatgggtagaaattttaa  
931 ataagaaaactcaagaccaggagagtgagttctgtcatctagctattatgctgcagatatttaaaggatgaataattgtttgactattggtt  
1024 tagaaatggtgtttcacatgaaagattccatttccggagtgggttgaaaaagatgcaaaagaacttttgcaactctgttttgcctttctgt

**BbsI (1153)**

**NotI (1207)**

1117 ttttcagCTGTATTTTCATCTGAGCACCCCTGTCTTCCATGCAAAGAGCAGCATAGGAGACCTGTGTTCTGAACCTCTGCTTCGAGAACCA

**NheI (1245)**

1210 TGGGGGTTCTCATCATCATCATCATGGTATGGCTAGCATGACTGGTGGACAGCAAATGGGTCGGGATCTGTACGACGATGACGATAAGG  
1 M G G S H H H H H G M A S M T G G Q Q M G R D L Y D D D D K  
1303 TACCTAAGGATCAGCTTGGAGTTGATCCCCTGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTTACCCAACCTAATCGCCTTGCAGCAC  
32 V P K D Q L G V D P V V L Q R R D W E N P G V T Q L N R L A A  
1396 ATCCCCCTTTCGCGCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTTG  
63 H P P F A S W R N S E E A R T D R P S Q Q L R S L N G E W R F  
1489 CCTGGTTTCCGCGACCAGAAGCGGTGCCGAAAAGCTGGCTGGAGTGCATCTTCTGAGGCCGATACTGTGCTGCTCCCCTCAAACCTGGCAGA  
94 A W F P A P E A V P E S W L E C D L P E A D T V V V P S N W Q  
1582 TGCACGGTTACGATGCGCCATCTACACCAACGTAACCTATCCCATTACGGTCAATCCGCCGTTTGTCCACGGAGAATCCGACGGTTGTT  
125 M H G Y D A P I Y T N V T Y P I T V N P P F V P T E N P T G C  
1675 ACTCGCTCACATTTAATGTTGATGAAAAGCTGGCTACAGGAAGGCCAGACGCGAATTTATTTTATGATGGCGTTAACTCGGCGTTTCATCTGTGGT  
156 Y S L T F N V D E S W L Q E G Q T R I I F D G V N S A F H L W  
1768 GCAACGGGCGCTGGGTCGGTTACGGCCAGGACAGTCTGTTGCCGTCTGAATTTGACCTGAGCGCATTTTTACGCGCCGGAGAAAACCGCCTCG  
187 C N G R W V G Y G Q D S R L P S E F D L S A F L R A G E N R L  
1861 CGGTGATGGTGTGCTGCGTTGGAGTGACGGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTTCCGTGACGTCTCGTTGCTGC  
218 A V M V L R W S D G S Y L E D Q D M W R M S G I F R D V S L L  
1954 ATAAACCGACTACACAAATCAGCGATTTCCATGTTGCCACTCGCTTTAATGATGATTTTCAGCCGCGCTGTACTGGAGGCTGAAGTTCAGATGT  
249 H K P T T Q I S D F H V A T R F N D D F S R A V L E A E V Q M  
2047 GCGGCGAGTTGCGTGACTACCTACGGGTAACAGTTTCTTTATGGCAGGGTGAACGCGAGGTCGCCAGCGGCACCAGCGCTTTTCGGCGGTGAAA  
280 C G E L R D Y L R V T V S L W Q G E T Q V A S G T A P F G G E  
2140 TTATCGATGAGCGTGGTGGTTATGCCGATCGCGTCACTACGCTGAACGTCGAAAACCCGAAACTGTGGAGCGCCGAAATCCCGAATCTCT  
311 I I D E R G G Y A D R V T L R L N V E N P K L W S A E I P N L  
2233 ATCGTGGCGTGGTTGAACTGCACACCGCCGACGGCAGCTGATTGAAGCAGAAGCCTGCGATGTGCGTTTCCGCGAGGTGCGGATTGAAAATG  
342 Y R A V V E L H T A D G T L I E A E A C D V G F R E V R I E N  
2326 GTCTGCTGCTGCTGAACGGCAAGCCGTTGCTGATTGAGGCGTTAACCGTCACGAGCATCATCTCTGCATGGTCAGGTCATGGATGAGCAGA  
373 G L L L L N G K P L L I R G V N R H E H H P L H G Q V M D E Q  
2419 CGATGGTGCAGGATATCCTGCTGATGAAGCAGAACTTTAACGCCGTGCGCTGTTGCGATTATCCGAACCATCCGCTGTGGTACACGCTGT  
404 T M V Q D I L L M K Q N N F N A V R C S H Y P N H P L W Y T L  
2512 GCGACCGCTACGGCTGTATGTGGTGGATGAAGCCAATATTGAAACCCACGGCATGGTGCCAAATGAATCGTCTGACCGATGATCCGCGCTGGC  
435 C D R Y G L Y V V D E A N I E T H G M V P M N R L T D D P R W  
2605 TACCGGCGATGAGCGAACGCGTAACGCGAATGGTGCAGCGCATCGTAATCACCCGAGTGTGATCATCTGGTGTGGGAAATGAATCAGGCC  
466 L P A M S E R V T R M V Q R D R N H P S V I I W S L G N E S G

2698 ACGGCGTAATCACGACGCGCTGTATCGCTGGATCAAATCTGTCGATCCTTCCCGCCCGGTGCAGTATGAAGGCGGCGGAGCCGACACCACGG  
497 H G A N H D A L Y R W I K S V D P S R P V Q Y E G G G A D T T

*BbsI* (2828)

2791 CCACCGATATTATTTGCCGATGTACGCGCGCTGGATGAAGACCAGCCCTTCCCGGCTGTGCCGAAATGGTCCATCAAAAAATGGCTTTCCG  
528 A T D I I C P M Y A R V D E D Q P F P A V P K W S I K K W L S  
2884 TACCTGGAGAGACGCGCCGCTGATCCTTTGCGAATACGCCACGCGATGGTAACAGTCTTGGCGGTTTCGCTAAATACTGGCAGGCGTTTC  
559 L P G E T R P L I L C E Y A H A M G N S L G G F A K Y W Q A F  
2977 GTCAGTATCCCGTTTACAGGGCGGCTTCGTCTGGGACTGGGTGGATCAGTCGCTGATTAATATGATGAAAACGGCAACCCGTGGTCGGCTT  
590 R Q Y P R L Q G G F V W D W V D Q S L I K Y D E N G N P W S A  
3070 ACGGCGGTGATTTTGGCGATACGCCAACGATCGCCAGTTCGTATGAACGGTCTGGTCTTTGCCGACCGCACGCCGATCCAGCGCTGACGG  
621 Y G G D F G D T P N D R Q F C M N G L V F A D R T P H P A L T  
3163 AAGCAAAACACCAGCAGCAGTTTTTCCAGTTCGTTTATCCGGGCAAACCATCGAAGTGACCAGCGAATACCTGTTCCGTCATAGCGATAACG  
652 E A K H Q Q Q F F Q F R L S G Q T I E V T S E Y L F R H S D N  
3256 AGCTCCTGCACTGGATGGTGGCGCTGGATGTAAGCCGCTGGCAAGCGGTGAAGTGCCTCTGGATGTCGCTCCACAAGGTAACAGTTGATTG  
683 E L L H W M V A L D G K P L A S G E V P L D V A P Q G K Q L I  
3349 AACTGCCTGAACTACCGCAGCCGGAGAGCGCCGGGCAACTCTGGCTCACAGTACGCGTAGTGAACCGAACGCGACCGCATGGTCAGAAGCCG  
714 E L P E L P Q P E S A G Q L W L T V R V V Q P N A T A W S E A  
3442 GGCACATCAGCGCTGGCAGCAGTGGCGTCTGGCGGAAAACCTCAGTGTGACGCTCCCGCCCGTCCCACGCCATCCCGCATCTGACCACCA  
745 G H I S A W Q Q W R L A E N L S V T L P A A S H A I P H L T T  
3535 GCGAAATGGATTTTGCATCGAGCTGGTAATAAGCGTTGGCAATTAACGCCAGTCAGGCTTCTTTACAGATGTGGATTGGCGATAAAA  
776 S E M D F C I E L G N K R W Q F N R Q S G F L S Q M W I G D K  
3628 AACAACTGCTGACCCGCTGCGCGATCAGTTCACCCGTGACCCGCTGGATAACGACATTGGCGTAAGTGAAGCGACCCGATTGACCCTAACG  
807 K Q L L T P L R D Q F T R A P L D N D I G V S E A T R I D P N  
3721 CCTGGTGAACGCTGGAAGGCGGGGCCATTACCAGGCCGAAGCAGCGTGTGTCAGTGCACGGCAGATACACTTGTGATGCGGTGCTGA  
838 A W V E R W K A A G H Y Q A E A A L L Q C T A D T L A D A V L  
3814 TTACGACCGCTCACGCGTGGCAGCATCAGGGGAAAACCTATTTATCAGCCGAAAACCTACCGGATTGATGGTAGTGGTCAAATGGCGATTA  
869 I T T A H A W Q H Q G K T L F I S R K T Y R I D G S G Q M A I  
3907 CCGTTGATGTTGAAGTGGCGAGCGATACCCGCATCCGCGCGGATTGGCCTGAACGCCAGTGGCGCAGGTAGCAGAGCGGGTAAACTGGC  
900 T V D V E V A S D T P H P A R I G L N C Q L A Q V A E R V N W  
4000 TCGGATTAGGGCCGAAGAAAACCTATCCCGACCGCTTACTGCCGCTGTTTTGACCGCTGGGATCTGCCATTGTCAGACATGTATACCCCGT  
931 L G L G P Q E N Y P D R L T A A C F D R W D L P L S D M Y T P

*BbsI* (4100)

4093 ACGTCTTCCCGAGCGAAAACGGTCTGCGCTGCGGGACGCGCAATTGAATTATGGCCACACCAGTGGCGCGGCGACTTCCAGTTCAACATCA  
962 Y V F P S E N G L R C G T R E L N Y G P H Q W R G D F Q F N I  
4186 GCCGCTACAGTCAACAGCAACTGATGGAAACCAGCCATCGCCATCTGCTGCACGCGGAAGAAGGCACATGGCTGAATATCGACGGTTTCCATA  
993 S R Y S Q Q Q L M E T S H R H L L H A E E G T W L N I D G F H  
4279 TGGGGATTGGTGGCGACGACTCCTGGAGCCGTCAGTATCGGCGGAATTACAGCTGAGCGCCGGTTCGCTACCATTACCAGTTGGTCTGGTGT  
1024 M G I G G D D S W S P S V S A E L Q L S A G R Y H Y Q L V W C

*NheI* (4398)

*EcoRI* (4392)

4372 AAAAATAATAATCTAGTCGAGAATTCGCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAA  
1055 Q K •  
4465 ATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAA  
4558 CAAGTTAAACAACAATTCATTCTTTATGTTTCAGGTTTCAAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGT

*PacI* (4673)

4651 GGTAGATCCATTTAAATGTTAATTAAGTACGATGACCAAAATCCCTTAACGTGAGTTTTCTTCCACTGAGCGTCAGACCCCGTAGAAAAGA  
4744 TCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGGTAATCTGCTGCTTCAAACAAAAAACCCGCTACCAGCGTGGTTTGTTCGCGG  
4837 ATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGGCTTCAAGAGCGCAGATACCAATACTGTTCTTCTAGTGTAGCCGTAGTTAGGCC  
4930 ACCACTCAAGAACTCTGTAGCACCCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTGTCTTA  
5023 CCGGGTTGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGTGGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGAGCGAACGA  
5116 CCTACACCGAACTGAGATACCTACAGCGTGAAGTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCA  
5209 GGGTCGGAACAGGAGAGCGCAGGGAGCTTCCAGGGGAAACGCTGGTATCTTTATAGTCTGTCGGGTTTCGCCACCTCTGACTTGAGC  
5302 GTCGATTTTGTGATGCTCGTCAGGGGGCGGAGCCTATGGAAAACGCCAGCAACGCGGCTTTTTACGGTTCCTGGCCTTTTGTGGCCTT

*PacI* (5413)

5395 TTGCTCACATGTTCTTAATTAATTTTTCAAAGTAGTTGACAATTAATCATCGGCATAGTATATCGGCATAGTATAATACGACTCACTATAG



5488 GAGGGCCATCATGGCCAAGTTGACCAGTGCTGTCCCAGTGCTCACAGCCAGGGATGTGGCTGGAGCTGTTGAGTTCTGGACTGACAGGTTGGG

1 M A K L T S A V P V L T A R D V A G A V E F W T D R L G

5581 GTTCTCCAGAGATTTTGTGGAGGATGACTTTGCAGGTGTGGTCAGAGATGATGTCACCCTGTTTCATCTCAGCAGTCCAGGACCAGGTGGTGCC

28 F S R D F V E D D F A G V V R D D V T L F I S A V Q D Q V V P

5674 TGACAACACCCTGGCTTGGGTGTGGGTGAGAGGACTGGATGAGCTGTATGCTGAGTGGAGTGAGGTGGTCTCCACCAACTTCAGGGATGCCAG

59 D N T L A W V W V R G L D E L Y A E W S E V V S T N F R D A S

5767 TGGCCCTGCCATGACAGAGATTGGAGAGCAGCCCTGGGGGAGAGAGTTTGCCTGAGAGACCCAGCAGGCAACTGTGTGCACTTTGTGGCAGA

90 G P A M T E I G E Q P W G R E F A L R D P A G N C V H F V A E

*PacI* (5922)

5860 GGAGCAGGACTGAGGATAAGAATTGTAACAAAAAACCCTGCCCGGGGTTTTTTGTTAATTAA

121 E Q D •